



Attorney Docket No. VPI/99-105 DIV

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

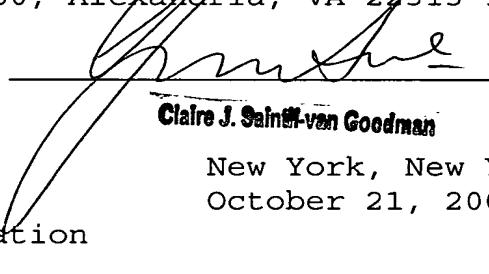
Applicant(s) : Michael R. Hale et al.

For : INHIBITORS OF ASPARTYL PROTEASE

EXPRESS MAIL CERTIFICATION

"Express Mail" mailing label number: EV 132192199 US  
Date of Deposit: October 21, 2003

I hereby certify that this transmittal letter and the other papers and fees identified in this transmittal letter as being transmitted herewith are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10 on the date indicated above and are addressed to Mailstop: Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



Claire J. Saint-Van Goodman

New York, New York  
October 21, 2003

Mail Stop: Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

TRANSMITTAL LETTER FOR RULE 53(b)  
CONTINUING PATENT APPLICATION

Sir:

This is a request for filing a [X] divisional application of pending Application No. 09/591,464, Confirmation No. 2787, filed June 9, 2000.

Transmitted herewith for filing are the

- [X] Specification (367) pages;
- [X] Claims (20 pages);
- [X] Abstract (1 page);
- [X] Preliminary Amendment;
- [X] Information Disclosure Statement and PTO Form-1449 (w/o references);
- [X] Print EFS Data Sheet;
- [X] 8 sets of copies of Declaration and Power of Attorney with Correction of Inventorship;

17510 U.S.PTO  
10/691333  
10/21/03



- Copy of Consent of Assignee to Correction of Inventorship Under 37 C.F.R. § 1.48;
- Copy of Petition to Correct Inventorship of Non-Provisional Application Under 37 C.F.R. § 1.48(a); and
- 4 sets of copies of the original Declaration and Power of Attorney; for filing in the above-identified patent application.

The enclosed declaration is:

- Newly executed (original or copy).
- Copy from a prior application (37 C.F.R. § 1.63(d)).
- A signed statement is attached deleting inventors named in the prior application (37 C.F.R. §§ 1.63(d)(2) and 1.33(b)).
- The entire disclosure of the prior application, from which a copy of the declaration is supplied, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
- The prior application, Application No. 09/591,464, filed June 9, 2000, is assigned to Vertex Pharmaceuticals Incorporated.

The filing fee has been calculated as shown below:

NUMBER FILED	NUMBER EXTRA	RATE	FEE
BASIC FEE			= \$ 770.00
TOTAL CLAIMS* 31 - 20 = 11	X \$ 18	= \$ 198.00	
INDEPENDENT CLAIMS** 2 - 3 = 0	X \$ 86	= \$ 0.00	
FIRST PRESENTATION OF A MULTIPLE DEPENDENT CLAIM		+ \$290	= \$ 290.00

\* If less than 20, insert 20. TOTAL = \$1,258.00  
\*\* If less than 3, insert 3.

- Fee calculation based on claims pending after Preliminary Amendment.
- A check in the amount of \$1,258.00 in payment of the filing fee is transmitted herewith.
- Please charge \$ \_\_\_\_\_ to Deposit Account No. 06-1075 in payment of the application fee. A duplicate copy of this transmittal letter is transmitted herewith.
- The Director is hereby authorized to charge payment of any additional filing fees required under 37 C.F.R. § 1.16 in connection with the paper(s) transmitted herewith, or credit any overpayment of same, to Deposit Account No. 06-1075. A duplicate copy of this transmittal letter is transmitted herewith.
- The Director is hereby authorized to charge payment of any additional fees that may be due in connection with the paper(s) transmitted herewith, or credit any overpayment of same, to Deposit Account No. 06-1075. A duplicate copy of this transmittal letter is transmitted herewith.



James F. Haley, Jr. (Reg. No. 27,794)  
Attorney for Applicants

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**COPY**

VPI/99-105

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner : Sonya Wright  
Group : 1626  
Applicant : Michael R. Hale et al.  
Application No. : 09/591,464  
Confirmation No. : 2787  
Filed : June 9, 2000  
Title : INHIBITORS OF ASPARTYL PROTEASE

New York, New York  
September 23, 2003

Hon. Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

PETITION TO CORRECT INVENTORSHIP OF NON-PROVISIONAL  
APPLICATION UNDER 37 C.F.R. § 1.48(a)

Sir:

Pursuant to 37 C.F.R. § 1.48(a), applicants hereby petition to amend the above-identified non-provisional application to correct the inventorship by adding Ronald George Sherrill as an inventor to the application. His address is as follows:

Ronald George Sherrill, a citizen of the United States of America residing at

139 Brannigan Place  
Cary, NC 27511

The name of Ronald George Sherrill was omitted in this application through error without any deceptive intention on the part of this inventor.

A check in the amount of \$130.00 in payment of the fee set forth in 37 C.F.R. § 1.17(i) is enclosed herewith.

The Director is hereby authorized to charge payment of any additional fee required in connection with this Petition, or to credit any overpayment of same to Deposit Account No. 06-1075. A duplicate copy of this Petition is enclosed.

Respectfully submitted,



---

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**COPY**

VPI/99-105

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner : Sonya Wright  
Group : 1626  
Applicants : Michael R. Hale, et al.  
Application No. : 09/591,464  
Confirmation No. : 2787  
Filed : June 9, 2000  
For : INHIBITORS OF ASPARTYL PROTEASE

New York, New York  
September 23, 2003

Hon. Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

CONSENT OF ASSIGNEE TO CORRECTION OF  
INVENTORSHIP UNDER 37 C.F.R. § 1.48

Sir:

Vertex Pharmaceuticals Incorporated, a corporation organized and existing under the laws of the Commonwealth of Massachusetts and having an office and place of business at 130 Waverly Street, Cambridge Massachusetts 02139-4242, hereby is the assignee of the entire right, title and interest in and to the above-identified patent application by virtue of an assignment from the presently named inventors (a copy of which is enclosed herewith).

As Senior Vice President and General Counsel, I, Kenneth S. Boger, am empowered to act on behalf of Vertex Pharmaceuticals Incorporated, the assignee of the above-identified application.

Vertex Pharmaceuticals Incorporated hereby consents to correction of the inventorship of the above-identified patent application by the addition of Ronald George Sherrill as an inventor.

To the best of my knowledge and belief, title is in the name of Vertex Pharmaceuticals Incorporated.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

VERTEX PHARMACEUTICALS INCORPORATED

Signed at: CAMBRIDGE, MA

&

Date: 9/22/03

By:   
Kenneth S. Boger  
Senior Vice President

General Counsel

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner : Not Yet Assigned  
Group : Not Yet Assigned  
Applicants : Michael R. Hale et al.  
Application No.: Not Yet Assigned  
Filed : Concurrently Herewith  
For : INHIBITORS OF ASPARTYL PROTEASE

New York, New York  
October 21, 2003

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

STATEMENT UNDER 37 C.F.R. §§ 1.56 AND 1.97(b)

Sir:

Pursuant to 37 C.F.R. §§ 1.56 and 1.97(b),  
applicants, through their representatives, make of record  
the following documents:

United States Patents

<u>Inventor</u>	<u>Patent No.</u>	<u>Issue Date</u>
Mohrs et al.	3,743,722	July 3, 1973
Descamps et al.	4,330,542	May 18, 1982
Ryono et al.	4,629,724	December 16, 1986
Martin et al.	5,196,438	March 23, 1993
Kempf et al.	5,354,866	October 11, 1994
Talley et al.	5,622,949	April 22, 1997
Tung et al.	5,723,490	March 3, 1998
Vazquez et al.	5,744,481	April 28, 1998
Amato et al.	5,808,056	September 15, 1998
Vazquez et al.	5,843,946	December 1, 1998

European Patent Applications

0 022 118	published January 7, 1981
0 181 071	published March 14, 1986
0 264 795	published April 27, 1988
0 346 847	published December 20, 1989
0 364 804	published April 25, 1990
0 434 365	published June 26, 1991
0 468 641	published January 29, 1992
0 486 948	published May 27, 1992
0 541 168	published May 12, 1993
0 594 540	published April 27, 1994

German Patent Application

DE 3542567      published June 5, 1986

Great Britain Patent Application

2,167,759	published June 4, 1986
2,200,115	published July 27, 1988

PCT International Patent Applications

WO 90/07329	published July 12, 1990
WO 91/00725	published January 24, 1991
WO 91/18866	published December 12, 1991
WO 92/08688	published May 29, 1992
WO 92/08698	published May 29, 1992
WO 92/08699	published May 29, 1992
WO 92/08700	published May 29, 1992
WO 92/08701	published May 29, 1992
WO 92/17176	published October 15, 1992
WO 93/23368	published November 25, 1993
WO 93/23388	published November 25, 1993
WO 93/23379	published November 25, 1993
WO 94/04491	published March 3, 1994
WO 94/04492	published March 3, 1994
WO 94/04493	published March 3, 1994
WO 94/05639	published March 17, 1994
WO 94/10134	published May 11, 1994
WO 94/10136	published May 11, 1994
WO 94/18192	published August 18, 1994
WO 94/19322	published September 1, 1994
WO 95/06030	published March 2, 1995
WO 95/07269	published March 16, 1995

WO 95/09843	published April 13, 1995
WO 95/14016	published May 26, 1995
WO 95/32185	published November 30, 1995

#### Japanese Patent Abstracts

JP 59046252	published March 15, 1984
JP 59048449	published March 19, 1984
JP 61071830	published April 12, 1986

#### Other Documents

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S. Crawford et al., "A Deletion Mutation in the 5' Part of the pol Gene of Moloney Murine Leukemia Virus Blocks Proteolytic Processing of the gag and pol Polyproteins", J. Virol., 53, pp. 899-907 (1985).

M. Cushman et al., "Development of Methodology for the Synthesis of Stereochemically Pure Phe $\psi$ [CH<sub>2</sub>N]Pro Linkages in HIV Protease Inhibitors", J. Org. Chem., 56, pp. 4161-67 (1991).

D.S. Dhanoa et al., "The Synthesis of Potent Macroyclic Renin Inhibitors", Tetrahedron Lett., 33, pp. 1725-28 (1992).

G.B. Dreyer et al., "Hydroxyethylene Isostere Inhibitors of Human Immunodeficiency Virus-1 Protease: Structure-Activity Analysis Using Enzyme Kinetics, X-ray Crystallography, and Infected T-Cell Assays", Biochemistry, 31, pp. 6646-59 (1992).

G.A. Flynn et al., "An Acyl-Iminium Ion Cyclization Route to a Novel Conformationally Restricted Dipeptide Mimic: Applications to Angiotensin-Converting Enzyme Inhibition", J. Am. Chem. Soc., 109, pp. 7914-15 (1989).

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A. Ghosh et al., "Potent HIV Protease Inhibitors Incorporating High-Affinity P<sub>2</sub>-Ligands and (R)-(Hydroxyethylamino)sulfonamide Isostere", Bio. & Med. Chem. Lett., 8, pp. 687-690 (1998).

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A. Goldblum, "Modulation of the Affinity of Aspartic Proteases by the Mutated Residues in Active Site Models", FEBS, 261, pp. 241-44 (1990).

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X. Lin et al., "Enzymic Activities of Two-Chain Pepsinogen, Two-Chain Pepsin, and the Amino-Terminal Lobe of Pepsinogen", J. Biol. Chem., 267(24), pp. 17257-63 (1992).

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T.D. Meek et al., "Inhibition of HIV-1 Protease in Infected T-Lymphocytes by Synthetic Peptide Analogue", Nature, 343, pp. 90-92 (1990).

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N.A. Roberts, "Rational Design of Peptide-Based HIV Proteinase Inhibitors", Science, 248, pp. 358-61 (1990).

S. Scharpe et al., "Proteases and Their Inhibitors: Today and Tomorrow", Biochimie, 73, pp. 121-26 (1991).

S.K. Sharma et al., "Could Angiotensin I Be Produced from a Renin Substrate by the HIV-1 Protease?", Anal. Biochem., 198, pp. 363-67 (1991).

S. Yamaguchi et al., "Synthesis of HIV Protease Dipeptide Inhibitors and Prodrugs", Peptide Chemistry 1996, pp. 297-300 (1997).

Copies of all the documents listed above were submitted by applicants in the parent U.S. Patent Application No. 09/591,464; or were cited by the Examiner during prosecution of said parent application. Pursuant to 37 C.F.R. §1.98(d), applicants have not enclosed copies of the listed documents. However, applicants stand ready to provide copies at the Examiner's request.

Applicants respectfully request that the above documents be (1) fully considered by the Examiner during the course of the examination of this application and (2) printed on any patent issuing from this application.

Applicants also request that a copy of the enclosed Form PTO-1449 duly initialed by the Examiner be forwarded to the undersigned with the next communication.

Respectfully submitted,



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James F. Haley, Jr. (Reg. No. 27,794)  
Attorney for Applicants  
Min Wang (Reg. No. 51,303)  
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